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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,419	01/09/2002	Satoshi Hirahara	217791US0XCONT	2581

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EXAMINER

LISH, PETER J

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/040,419	Applicant(s) HIRAHARA ET AL.	
	Examiner Peter J Lish	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-29 is/are pending in the application.  
 4a) Of the above claim(s) 23-29 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1,2 and 4-22 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☒ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/9/02, 3/21/02, 6/27/03</u>  | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-2 and 4-22, in the reply filed on 4/19/04 is acknowledged. The traversal is on the ground(s) that the product is limited by its method of making. This is not found persuasive because the product is not limited as such. Applicant additionally argues that there is no burden of search. This is not found to be persuasive because the search for product is not coextensive with the search for the process of making the product, and therefore a burden does exist. The rejoinder of the process claims will be considered upon the indication of allowable product claims.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13-14 recite that the pore volume of the activated carbon is from 0.07 to 0.13 cc/g. Claim 1, to which it depends, however, recites a pore volume of pores having a diameter of between 5 and 30 nm to be in the range of from 0.05 to .15 cc/g. It is indefinite as to how the total pore volume may be less than the volume of pores meeting a certain diameter requirement. Perhaps the pore volume of pores meeting the diameter limitation of claim 1 was meant.

Claim 15 recites the limitation "said steam activation" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 4-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Adachi et al. (US 5,430,606).

Adachi et al. teaches an activated carbon for use in electric double layer capacitors which is made from coconut shells as the raw material. The surface area of the resulting activated carbon product is varied by slight alterations in activation conditions, however, it is seen that the process produces activated carbon having BET surface areas of 2001 m<sup>2</sup>/g as well as 2337 m<sup>2</sup>/g (example 2). While neither the average pore diameter, nor the volume of pores having a

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diameter of 5-30 nm are taught, it is expected that the activated carbon of Adachi et al. exhibits these properties because it is produced from the same raw material and is activated to an equivalent extent to obtain a surface area within the claimed range.

The additionally claimed properties, i.e. the amount of oxygen contained per gram of activated carbon, the total pore volume, the spontaneous potential vs. a lithium electrode, and the rest potential vs. a lithium electrode, are expected to be possessed by the activated carbon of Adachi et al. for the same reasons stated above. Regarding claims 10 and 15, the method of making the activated carbon does not limit the material itself.

Claims 1-2 and 4-22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Alford (US 5,926,361).

Alford teaches activated carbon used in electric double layer capacitors. Table II shows activated carbons having BET surface areas between 2000 and 2500 m<sup>2</sup>/g and various pore size distributions. Sample number 6 appears to especially meet the pore distribution and pore volume limitations of the instantly claimed invention. While neither the average pore diameter, nor the volume of pores having a diameter of 5-30 nm are taught, it is expected that the activated carbon of Alford exhibits these properties because of the pore size distribution taught by Alford.

The additionally claimed properties, i.e. the amount of oxygen contained per gram of activated carbon, the total pore volume, the spontaneous potential vs. a lithium electrode, and the rest potential vs. a lithium electrode, are expected to be possessed by the activated carbon of Alford because no difference is seen between the activated carbon of Alford and that of the

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instantly claimed invention. Regarding claims 10 and 15, the method of making the activated carbon does not limit the material itself.

Claims 1-2 and 4-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Baker et al. (US 5,416, 056).

Baker et al. teaches activated carbons having a BET specific surface area of between  $2102 \text{ m}^2/\text{g}$  and  $2491 \text{ m}^2/\text{g}$  and a large majority of micropores having a diameter of less than 2 nm (Tables I and II). While neither the average pore diameter, nor the volume of pores having a diameter of 5-30 nm are taught, it is expected that the activated carbon of Baker et al. exhibits these properties because of the pore size distribution taught by Baker et al.

The additionally claimed properties, i.e. the amount of oxygen contained per gram of activated carbon, the total pore volume, the spontaneous potential vs. a lithium electrode, and the rest potential vs. a lithium electrode, are expected to be possessed by the activated carbon of Baker et al. because no difference is seen between the activated carbon of Baker et al. and that of the instantly claimed invention. Regarding claims 10 and 15, the method of making the activated carbon does not limit the material itself.

Claims 1-2 and 4-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wennerberg (US 3,624,004).

Wennerberg teaches activated carbons having surface areas of  $2068 \text{ m}^2/\text{g}$ ,  $2178 \text{ m}^2/\text{g}$ , and  $2317 \text{ m}^2/\text{g}$ . The typical pore volume distribution of the activated carbons of Wennerberg may be seen in Figure 2. While neither the average pore diameter, nor the volume of pores having a

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diameter of 5-30 nm are taught, it is expected that the activated carbon of Wennerberg exhibits these properties because of the pore size distribution taught by Wennerberg.

The additionally claimed properties, i.e. the amount of oxygen contained per gram of activated carbon, the total pore volume, the spontaneous potential vs. a lithium electrode, and the rest potential vs. a lithium electrode, are expected to be possessed by the activated carbon of Wennerberg because no difference is seen between the activated carbon of Wennerberg and that of the instantly claimed invention. Regarding claims 10 and 15, the method of making the activated carbon does not limit the material itself.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5,064,805; US 5,626,637; US 5,254,597. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 571-272-1354. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



PL

**STUART L. HENDRICKSON**  
**PRIMARY EXAMINER**